

CLAIMS:

1. A clothes dryer comprising a chamber having an inlet and an outlet; a basket rotatable in the chamber, the basket including openings to allow air to flow through the basket; a heater which delivers heated air through the chamber inlet to the chamber; and a blower which forces air to pass through the inlet, the basket, and out the outlet; the improvement comprising a fire suppression system; the fire detection and suppression system comprising:

a controller;

at least one temperature detector adjacent said chamber; said temperature detector being operatively connected to said controller to send a temperature signal to said controller, said temperature signal being indicative of a temperature of said chamber; said controller detecting the presence of a fire condition based on the signals from said temperature detector;

a source of a fire suppressing substance, a pathway to deliver said fire suppressing substance to said basket, and a valve in said pathway; said valve being moveable between a closed position in which said fire suppressing substance is prevented from entering the basket and an open position in which said fire suppression substance can be introduced into said basket;

said valve being operatively connected to said controller; said controller opening said valve when a fire condition is detected for a time sufficient to introduce a predetermined volume of said fire suppressing substance into said basket.

2. The improvement of claim 1 wherein said fire suppressing substance is water.

3. The improvement of claim 1 wherein said temperature detector is a bi-metal thermostat; said temperature detector sending a signal to said controller when a predetermined temperature at said detector is reached and/or exceeded.

4. The improvement of claim 3 wherein said bi-metal thermostat is a normally opened bi-metal thermostat.

5. The improvement of claim 1 wherein said temperature detector is located at said chamber inlet and comprises an inlet temperature detector; said fire detection and suppression system also including an outlet temperature detector located adjacent said chamber outlet.

6. The improvement of claim 1 wherein said controller closes said valve after said predetermined amount of fire suppressing material has been delivered to said basket.

7. The improvement of claim 1 wherein said controller activates an alarm when a fire condition is detected; said alarm being a visual and/or audible alarm.

8. The improvement of claim 1 wherein said controller turns off said heater, said basket motor, and said blower, if said heater, basket motor or blower are activated when a fire condition is detected.

9. The improvement of claim 1 wherein said controller periodically jogs said basket while said valve is opened.

10. The improvement of claim 1 including a flow detector in operative communication with said controller; said controller using output from said flow detector to determine the amount of time necessary for the predetermined volume of water to be discharged into said chamber.

11. The improvement of claim 10 wherein said flow detector is a pressure sensor or a flow rate sensor.

12. A method for detecting and suppressing a fire condition in a clothes dryer; the clothes dryer including a chamber, a basket mounted within said chamber to be rotated within said chamber, a motor for rotating said basket, an air inlet into said chamber, a heater for heating air entering said chamber, air outlet, and a blower for forcing air through an air path from said inlet, through said basket, and out said outlet; said method comprising;

determining if a set temperature at a selected point in said air path has been reached or exceeded;

releasing a fire suppressing material into said basket when said set temperature is exceeded; and

stopping the flow of said fire suppressing material after a predetermined amount of said material has been introduced into said basket.

13. The method of claim 12 including a step of determining the amount of time required to release the predetermined amount of said fire suppressing material into the chamber.

14. The method of claim 13 wherein said step of determining the amount of time includes receiving information regarding the pressure or flow rate of said fire suppressing material entering the chamber.

15. The method of claim 12 wherein said method includes periodically activating said basket motor to jog said basket while said fire suppressing material is being introduced into said basket.

16. The method of claim 12 including a step of determining if said basket motor, heater, and blower are activated prior to releasing said fire suppressing material into said chamber, and deactivating said basket motor, heater, and blower if they are activated prior to opening release of fire suppressant material into said basket.